

In the Claims

1. (Currently Amended) A method for correcting DC offsets in a multi-stage amplifier, comprising:

determining a DC offset imparted by a multi-stage amplifier to an input signal; and

applying a correction voltage to a plurality of selected stages in the multi-stage amplifier, wherein the total correction voltage applied substantially negates the DC offset imparted by the multi-stage amplifier;

wherein the method is performed in an equalizer operable to compensate for attenuation in the input signal; and

wherein a gain of the multi-stage amplifier is controlled by an adaptive controller of the equalizer.

2. (Original) The method of Claim 1, wherein the step of determining a DC offset comprises determining a DC offset for each stage of the amplifier.

3. (Original) The method of Claim 2, wherein:
the correction voltage is applied to every stage of the amplifier; and
the correction voltage applied to each stage is equal in magnitude to the DC offset imparted by the stage.

4. (Original) The method of Claim 1, wherein the total correction voltage is divided evenly among the selected stages at which the correction voltage is applied.

5. (Original) The method of Claim 1, further comprising:
monitoring an output DC offset for an output signal of the multi-stage amplifier;
detecting a change in the output DC offset; and
adjusting the correction voltage applied to the stages in response to the change in the output DC offset.

6. (Original) The method of Claim 1, further comprising:
adding a new stage to the multi-stage amplifier;
determining a DC offset imparted by the new stage; and

applying a correction voltage equal in magnitude to the DC offset imparted by the
5 new stage.

7. (Original) The method of Claim 1, further comprising:
adjusting the gain of one of the stages of the amplifier; and
in response to the adjustment of the gain, adjusting the correction voltage applied to
the stage for which the gain was adjusted.

8. (Original) The method of Claim 1, wherein:
the multi-stage amplifier comprises one of a plurality of multi-stage amplifiers,
wherein each multi-stage amplifier is operable to amplify a respective signal on a respective
communication path;

5 the respective signals are mixed into a combined output signal; and
the method further comprises:
monitoring for a change in a DC offset of the combined output signal; and
adjusting the correction voltage in response to detecting the change in the DC
offset of the combined output signal.

9. (Canceled)

10. (Currently Amended) The method of Claim 9~~1~~, wherein the method further
comprises:

detecting an indication from the adaptive controller ~~than~~that the gain of the multi-
stage amplifier has been changed; and

5 adjusting the correction voltage in response to the change.

11. (Original) The method of Claim 1, wherein the input signal has a frequency of
at least one gigahertz.

12. (Currently Amended) A multi-stage amplifier, comprising:
a plurality of stages, each stage operable to apply a respective gain to an input signal;
and

an offset controller operable to apply a correction voltage to a plurality of selected
5 stages, wherein the total correction voltage applied to the stages substantially negates a total
DC offset imparted by the multi-stage amplifier;

wherein the amplifier is part of an equalizer operable to compensate for attenuation in
the input signal; and

wherein the gain of the multi-stage amplifier is controlled by an adaptive controller of
10 the equalizer.

13. (Original) The amplifier of Claim 12, wherein the offset controller is further
operable to apply a correction voltage to each of the stages equal in magnitude to a DC offset
imparted by the stage.

14. (Original) The amplifier of Claim 12, wherein the total correction voltage is
divided evenly among the selected stages at which the correction voltage is applied.

15. (Original) The amplifier of Claim 12, wherein:
the amplifier further comprises an offset monitor operable to:
monitor an output DC offset for an output signal of the multi-stage amplifier;
and

5 detect a change in the output DC offset; and
the offset controller is further operable to adjust the correction voltage applied to the
stages in response to the change in the output DC offset.

16. (Original) The amplifier of Claim 12, wherein the offset controller is further
operable to:

detect an adjustment of the gain of one of the stages of the amplifier; and
in response to the adjustment of the gain, adjust the correction voltage applied to the
5 stage for which the gain was adjusted.

17. (Original) The amplifier of Claim 12, wherein:

the multi-stage amplifier comprises one of a plurality of multi-stage amplifiers, wherein each multi-stage amplifier is operable to amplify a respective signal on a respective communication path;

5 the respective signals are mixed into a combined output signal; and

the amplifier further comprises an offset monitor operable to monitor for a change in a DC offset of the combined output signal; and

adjusting the correction voltage in response to detecting the change in the DC offset of the combined output signal.

18. (Canceled)

19. (Original) The amplifier of Claim 12, wherein the input signal has a frequency of at least one gigahertz.

20. (Currently Amended) A multi-stage amplifier, comprising:
means for determining a DC offset imparted by a multi-stage amplifier; ~~and~~
means for applying a correction voltage to a plurality of selected stages in the multi-
5 stage amplifier, wherein the total correction voltage applied substantially negates the DC
offset imparted by the multi-stage amplifier; and
means for controlling a gain of the multi-stage amplifier, wherein the means for
determining the DC offset, the means for applying the correction voltage, and the means for
controlling the gain form parts of an equalizer operable to compensate for attenuation in an
10 input signal to the equalizer.

21. (Original) The amplifier of Claim 20, further comprising:
means for monitoring an output DC offset for an output signal of the multi-stage
amplifier;
15 means for detecting a change in the output DC offset; and
means for adjusting the correction voltage applied to the stages in response to the
change in the output DC offset.

22. (Original) The amplifier of Claim 20, further comprising:
means for adjusting the gain of one of the stages of the amplifier; and
means for adjusting the correction voltage applied to the stage for which the gain was
adjusted in response to the adjustment of the gain.